UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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ART UNIT	PAPER NUMBER
2135	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/789,986	HAYASHI, JUNICHI
	Examiner	**Art Unit**	
	April Y. Shan	2135	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 March 2004 and 28 June 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-28</u> is/are pending in the application.

    4a) Of the above claim(s) <u>15-19, 21, 22, 24, 25, 27 and 28</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-14, 20, 23 and 26</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>02 March 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>6/21/2004</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-14, 20, 23 and 26 have been examined.

Election/Restrictions

2.   Applicant's election of Group I (claims 1-14, 20, 23 and 26), in the reply filed on

28 June 2007 is acknowledged. Because the applicant did not distinctly and specifically

point out the supposed errors in the restriction requirement, the election has been

treated as an election without traverse (M.P.E.P. § 818.03(a)).

3.   The Applicant did not address in the response to election/restriction whether

Group II (claims 15-19, 21-22, 24-25 and 27-28) are withdrawn or canceled. Thus,

claims 15-19, 21-22, 24-25 and 27-28 are withdrawn from further considerations, as

they are non-elected claims.

Priority

4.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which

papers have been placed of record in the file.

Claim Objections

5.   Claims 1-14, 20, 23 and 26 are objected to because of the following informalities:

As per **claims 1, 20 and 23**, "a start position" should be "a starting

position";

Any claim not specifically addressed, above, is being objected as

incorporating the deficiencies of a claim upon which it depends.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7.   Claims 1-14, 20, 23 and 26 are rejected under 35 U.S.C. 112, first paragraph, because the specification, does not reasonably provide enablement for a switching step of switching whether the addition step should be executed and a data block generated via the switching step. The specification does not enable any person skilled in the art to which it pertains, or with which it is mostly nearly connected, to make and use the invention commensurate in scope with these claims.   It appears to the examiner, "a switching step/means" recited in claims 1, 20, 23 and 26 is another "determining step/means" and has no generating a data block function at all. The limitation is interpreted as "a second determination step of determining whether the addition step should be executed...an output step of outputting a data block which is determined in the first determination step as a data block not to be encrypted and a data block is encrypted via the encryption step"

Any claim not specifically addressed, above, is being rejected as incorporating the deficiencies of a claim upon which it depends.

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9.   The claims 1-14, 20, 23 and 26 are generally narrative and indefinite, failing to

conform with current U.S. practice. They appear to be a literal translation into English

from a foreign document and are replete with grammatical and idiomatic errors. **For**

example, in claim 1, "a step of inputting image data, which is constituted by a plurality

of data blocks, for each data block", "an encryption step of encrypting the data block

when it is determined in the determination step that the data block as the object to be

encrypted is input" and "a switching step of switching whether the addition step should

be executed" are grammatically incomprehensible and unclear.

Please check claims 1-14, 20, 23 and 26 and make corrections accordingly.

10.   Claims 1-14, 20, 23 and 26 are rejected under 35 U.S.C. 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

As per **claim 1**, " a step of inputting image data, which is constituted by a plurality

of data blocks, for each data block" is being recited in lines 4-6. What is "for each data

block" meant? Further, "...whether the input data block..." is being recited in lines 7-8.

However, "the input data block" lacks of antecedent basis. Furthermore, in lines 9, 11

and 15, "the data block..." is being recited. Is "the data block" same as "the input data

block" or different from "the input data block" in lines 7-8? Also, "outputting a data

block..." is being recited in lines 18 – 20. However, it is unclear "a data block...as a

data block not to be encrypted" and "a data block generated via the switching step" are

same block or different block. Additionally, "a switching step.." is being recited in lines

16-17. However, it appears to be a determining step, not a switching step. Where is the switching will be switching to? Finally, in lines 20-21, "a data block generated via the switching step" is being recited. However, in the above switching step recited in lines 16-17, no data block is ever generated.

As per **claim 20**, "input means for inputting image data, which is constituted by a plurality of data blocks, for each data block" is being recited in lines 6-8. What is "for each data block" meant? Further, "...whether the input data block..." is being recited in lines 9-10. However, "the input data block" lacks of antecedent basis. Furthermore, in lines 11, 12 and 16, "the data block..." is being recited. Is "the data block" same as "the input data block" or different from "the input data block" in lines 9-10? Also, "outputting a data block..." is being recited in line 20. However, it is unclear "a data block...as a data block not to be encrypted" and "a data block generated via the switching means" are same block or different block. Additionally, "a switching means.." is being recited in lines 18-19. However, it appears to be a determining means, not a switching means. Where is the switching will be switching to? Finally, in lines 22-23, "a data block generated via the switching means" is being recited. However, in the above switching means recited in lines 16-17, no data block is ever generated.

As per **claim 23**, "input means for inputting image data, which is constituted by a plurality of data blocks, for each data block" is being recited in lines 7-9. What is "for each data block" meant? Further, "...whether the input data block..." is being recited in lines 10-11. However, "the input data block" lacks of antecedent basis. Furthermore, in lines 12-15, "the data block..." is being recited. Is "the data block" same as "the input

data block" or different from "the input data block" in lines 10-11? Also, "outputting a

data block..." is being recited in line 21. However, it is unclear "a data block...as a data

block not to be encrypted" and "a data block generated via the switching means" are

same block or different block. Additionally, "a switching means.." is being recited in

lines 19-20. However, it appears to be a determining means, not a switching means.

Where is the switching will be switching to? Finally, in lines 23-24, "a data block

generated via the switching means" is being recited. However, in the above switching

means recited in lines 19-20, no data block is ever generated.

Any claim not specifically addressed, above, is being rejected as incorporating

the deficiencies of a claim upon which it depends.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

11.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

12.   Claim 23 is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

As per **claim 23**, it recites a computer program for encrypting image data. The

examiner respectfully asserts that the claimed subject matter does not fall within the

statutory classes listed in 35 USC 101. Claim 23 defines a computer program

embodying functional descriptive material. However, the claim does not define a

computer readable medium or memory and is thus non-statutory for that reason.

Therefore, a claim for a computer program, without the computer-readable medium

needed to realize the computer program functionality, is treated as nonstatutory

functional descriptive material. Therefore, claim 23 recites non-statutory subject matter.

Claim Rejections - 35 USC § 103

13.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14.   The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

15.   Claims 1-14, 20, 23 and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jandel et al. (U.S. Patent No. 6,931,534) in view of Kerofsky et al.

(U.S. Patent No. 6,677,868) and further in view of Muratani et al. (U.S. Patent No.

6,061,451).

As per **claims 1 and 20**, Jandel et al. discloses an image data encryption

method/apparatus of encrypting image data, comprising:

A step of inputting image data, which is constituted by a plurality of data

blocks, for each data block ("... Thus, the image data file consists of a number of

different independently decodable coding sections 101, 103 and 105..." – e.g. col. 3,

lines 16-23, col. 4, lines 23-30, fig. 1 and fig. 3);

a determination step of determining whether the

input data block is an object to be encrypted ("... The output from the block 201 is fed to

a selector which selects a suitable encryption method for each entropy coding unit.

Some coding units can be selected to not be encrypted at all" – e.g. col. 3, line 66 –

col. 4, line 2 and "... The coding units that are chosen to be encrypted can be set in

accordance with user preferences. Thus, a user can chose to have coding units

corresponding to RIOs... encrypted" – e.g. col. 4, lines 46-49);

an encryption step of encrypting the data block when it is determined in the

determination step that the data block as the object to be encrypted is input ("In

response to the selection made in the selector 203 the entropy coded coding units are

encrypted in a block 205" – e.g. col. 4, lines 3-4);

an output step of outputting a data block which is

determined in the determination step as a data block not to be encrypted and a

data block generated via the switching step ("The encrypted coding units together with

the not encrypted coding units then form a combined output data stream, which can be

stored or transmitted" – e.g. col. 4, lines 4-7).

Jandel et al. further teaches, "The section 103... is encrypted using a first

encryption method, and only receivers having access to the correct encryption key will

be able to decode the data stored in the section 103. The section 105...is encrypted

using a second encryption method, and only receivers having access to the encryption

key will be able to decode the data stored in the section 105" and "In fig. 2b a decoder

for decoding the bit stream generated by the encoder in Fig. 2a is shown...The

decrypted coding units are then fed to the block 255" (see col. 3, lines 24-35 and col. 4,

lines 8-22).

Jandel et al. further teaches adding information to specify an Encryption Flag to a

start position of the encrypted data block in fig. 5.

Jandel et al. does not explicitly teach of adding terminating information to specify

a terminating position of significant data for decoding to a start position of the encrypted

data block. Kerofsky et al. discloses adding information of significant data for decoding

to a start position of the image data in col. 8, lines 4-10 "Referring to Fig. 7, in the

syntax decoding method 180, the start of the image data is detected 182..The syntax

applicable to the portion of the bit stream representing the image is determined by

detecting the syntax signal in the bit stream 184 and the decoder switches to the syntax

decoding method to be applied to the data 186...", but the information is not a

terminating position. Muratani et al. discloses the information can include terminating

position in col. 19, lines 3-56, "...The syntax data represents what data element is

located in which position (bit position) in the video stream. For example, the syntax

data represents that the sequence header code data are located from the first to thirty

second bits...The mark insert circuit 222 performs the FP process for inserting a mark

into a determined insert position in the stream data according to control of the mark

insert controller 225 based on the insert position data PD... The decoder 7 performs the decoding process on the stream data which has been subjected to the FP process and outputs the stream data into the interface..."

Because Jandel et al., Kerofsky et al. and Muratani et al. references teach methods/apparatus for encoding/decoding digital image, it would have been obvious to one having ordinary skill in the art to incorporate terminal position information taught by Muratani et al. into Jandel et al. - Kerofsky et al. references' adding information of significant data for decoding to a start position of the encrypted data block to achieve the predictable result of encoding/decoding digital image data.

Jandel et al. - Kerofsky et al. - Muratani et al. further discloses a switching step of switching whether the addition step should be executed (Muratani et al. – e.g. col. 19, line 67 – col. 20, line 6)

As per **claims 2 and 3**, Jandel et al. - Kerofsky et al. - Muratani et al. disclose a method as applied above in claim 1. Jandel et al. - Kerofsky et al. - Muratani et al. further discloses comprising a second addition step of adding the terminating information to an end position of the data block, wherein the switching step switches between the addition step and the second addition step (Muratani et al. – e.g. col. 19, line 3- col. 20, line 6) and wherein information representing whether the data block is encrypted is added immediately after the terminating information (Jandel et al. – e.g. col. 5, line 19 – col. 7, line 14).

As per **claim 4**, Jandel et al. - Kerofsky et al. - Muratani et al. disclose a method

as applied above in claim 1. Jandel et al. - Kerofsky et al. - Muratani et al. further

discloses wherein, in the terminating information addition step, the terminating

information is replaced with the encrypted image data (Jandel et al. – e.g. col. 7, lines

5-15).

As per **claim 5**, Jandel et al. - Kerofsky et al. - Muratani et al. disclose a method

as applied above in claim 1. Jandel et al. - Kerofsky et al. - Muratani et al. further

discloses wherein, in the determination step, it is determined whether the input data

block is an object which is set in advance as the object to be encrypted, and in the

switching step, switching is performed in accordance with setting information

representing whether the encrypted data block should be transferred to decoding

processing by the same procedures as that of an unencrypted data block (Jandel et al.

– e.g. col. 3, line 66 – col. 4, line 2, col. 7, lines 5-14 and fig. 2b).

As per **claims 6-9**, Jandel et al. - Kerofsky et al. - Muratani et al. disclose a

method as applied above in claim 1. Jandel et al. - Kerofsky et al. - Muratani et al.

further discloses comprising an encoding step of encoding (compressing) image data,

wherein in the input step, encoded (compressed) image data is input and wherein the

encoding step comprises a frequency conversion step of converting data in a spatial

domain into data in a frequency domain, a quantization step of quantizing the data in

the frequency domain and calculating a quantization index, and an entropy encoding

step of entropy-encoding the quantization index and wherein the entropy encoding step

comprises a region division step of dividing a predetermined frequency region into a

plurality of rectangular regions which do not overlap each other, an

entropy encoding step of entropy-encoding the quantization index for each bit

plane in each rectangular region, and an entropy codestream division step of

dividing an entropy codestream in the rectangular region into at least a set of

codestreams and wherein, in the addition step, the terminating information is added to

each set of codestreams in the rectangular region (Kerofsky et al. – e.g. col. 4, line 12

– col. 5, line 17).

As per **claim 10**, Jandel et al. - Kerofsky et al. - Muratani et al. disclose a method

as applied above in claim 6. Jandel et al. - Kerofsky et al. - Muratani et al. further

discloses wherein the encoding step comprises a frequency conversion step of

converting data in a spatial domain into data in a frequency domain, a quantization

step of quantizing the data in the frequency domain and calculating a quantization

index, and an entropy encoding step of entropy-encoding the quantization index, and in

the encryption step, encryption processing is executed for the entropy-encoded entropy

codestream (Kerofsky et al. – e.g. col. 4, line 12 – col. 5, line 17).

As per **claim 11**, Jandel et al. - Kerofsky et al. - Muratani et al. disclose a method

as applied above in claim 6. Jandel et al. - Kerofsky et al. - Muratani et al. further

discloses wherein the encoding step comprises a frequency conversion step of

converting data in a spatial domain into data in a frequency domain, a quantization

step of quantizing the data in the frequency domain and calculating a quantization

index, and an entropy encoding step of entropy-encoding the quantization index, and in

the encryption step, encryption processing is executed for the quantized quantization

index (Kerofsky et al. – e.g. col. 4, line 12 – col. 5, line 17).

As per **claim 12**, Jandel et al. - Kerofsky et al. - Muratani et al. disclose a method

as applied above in claim 6. Jandel et al. - Kerofsky et al. - Muratani et al. further

discloses wherein the encoding step comprises a

frequency conversion step of converting data in a spatial domain into data in a

frequency domain, a quantization step of quantizing the data in the frequency

domain and calculating a quantization index, and an entropy encoding step of

entropy-encoding the quantization index, and in the encryption step, encryption

processing is executed for the frequency-converted data in the frequency

domain (Kerofsky et al. – e.g. col. 4, line 12 – col. 5, line 17).

As per **claims 13-14**, Jandel et al. - Kerofsky et al. - Muratani et al. disclose a

method as applied above in claim 10. Jandel et al. - Kerofsky et al. - Muratani et al.

further discloses wherein the entropy encoding step

comprises a region division step of dividing a predetermined frequency region

into a plurality of rectangular regions which do not overlap each other, an

entropy encoding step of executing entropy-encoding for each bit plane in each

rectangular region to generate an entropy codestream, and an entropy codestream

division step of dividing an entropy codestream in the rectangular region into

at least a set of codestreams (Kerofsky et al. - e.g. col. 4, lines 12-41) and wherein, in

the addition step, the terminating information is added to each set of codestreams in

the rectangular region (Kerofsky et al. - e.g. col. 4, lines 12-41).

As per **claims 23 and 26**, Jandel et al. - Kerofsky et al. - Muratani et al. disclose

the claimed method of steps as applied above in claim 1. Therefore, Jandel et al. -

Kerofsky et al. - Muratani et al. discloses the claimed computer program stored in a

computer-readable storage medium for carrying out the method of steps.

Conclusion

16.   The prior art made of record and not relied upon is considered pertinent to
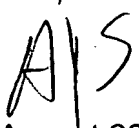
applicant's disclosure. (See PTO-892)

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April Y. Shan whose telephone number is (571) 270-1014. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

14 August 2007
AYS

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